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Disciplines

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Effectiveness of Treatment Techniques for Substance Abuse in Occupational Therapy

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CLINICAL SCENARIO:

Although excessive alcohol use is often socially accepted behavior, there is a notable increased risk of workforce dysfunction, motor vehicle accidents, injuries, marital discord, family dysfunction and alcohol related disease. Occupational therapists in all areas of practice work with individuals who have substance-use disorders. This constitutes a major portion of those referred to occupational therapy. The functional and occupational consequences of primary or secondary substance-use disorders are varied. A person who abuses substances' body does not function properly and their body structures may be damaged or destroyed. Engagement in personal activities and participation in life situations are restricted and ultimately affect the individual's quality of life. Evidence-based practices for the treatment of substance abuse include brief intervention, social skills training, motivational enhancement, community reinforcement and behavioural contracting. All of these practices have their benefits, however, once treatment has been completed, it has been historically up to the individual to continue to be motivated and remain in recovery. It is important for occupational therapists and those treating substance abuse to be aware of and implement the most effective treatment techniques available.

FOCUSSED CLINICAL QUESTION: What are the most appropriate treatment techniques for occupational therapists treating substance abuse?

SUMMARY of Search, 'Best' Evidence' appraised, and Key Findings:

- Five citations were located that met the inclusion/exclusion criteria
- The RCT by Brown, Seraganian, Tremblay, and Annis was deemed the "best" evidence and was appraised.
- Four primary intervention methods were revealed through the literature review by Stoffel & Moyers, including brief interventions, cognitive-behavioral therapy, motivational strategies, and 12-step treatment programs
- According to these studies, Stoffel & Moyers concluded that occupational therapists could consider using a combination of motivational strategies, cognitive-behavioral approaches, and 12-step principles in helping clients develop the kinds of cognitive performance outcomes needed to achieve and maintain abstinence
- The interventions included in the review by Stoffel and Moyer were effective in

decreasing substance use as measured by quantity and frequency questions, days abstinent, number of days drinking or bingeing, blood alcohol concentrations, organ function studies, or toxicology screens.

- Occupational therapists and occupational therapy assistants in many practice areas could provide brief interventions to address the substance abuse that may be interfering with the physical rehabilitation goals of their clients according to the meta-analysis by Wilk & Jensen.
- The meta-analysis of RCTs shows that heavy drinkers receiving brief interventions were two times more likely to moderate their drinking when compared with drinkers receiving no intervention.
- The meta-analysis also suggests that brief alcohol intervention compared to all other available alcohol intervention programs has been shown to be the least expensive.
- The study about peer support shows evidence that supports participation in a peer-support group as an effective strategy for sustaining recovery of at-risk clients.

CLINICAL BOTTOM LINE:

Treatment for substance abuse is better than no treatment in reducing relapse rates.

Limitation of this CAT: This critically appraised paper (or topic) has /has not been peer-reviewed by one other independent person/a lecturer. This was not a complete and exhaustive review. I am not a clinical expert in this field- relative novice, novice practitioners.

SEARCH STRATEGY: The search was conducted up to November 2009.

Terms used to guide Search Strategy:

- Patient/Client Group: adult, youth, substance use disorders, substance-abusers, substance users,
- Intervention (or Assessment): brief intervention, 12-step, aftercare, relapse prevention, occupational therapy, peer-support, social skills training, motivational enhancement, community reinforcement, cognitive-behavioural interventions
- Comparison: no treatment
- Outcome(s): reduction of substance use or prevention of relapse

Databases and sites searched	Search Terms	Limits used
CINAHL EBSCO OT SEARCH AJOT	Substance use, substance abuse, alcohol, marijuana, cannabis, cocaine, methamphetamines, occupational therapy, relapse prevention, 12-step, cognitive-behavioral, intervention, treatment	English texts only 1985-present

INCLUSION and EXCLUSION CRITERIA

- Inclusion:
 - Articles outlining potential effective treatment techniques for substance abuse
 - Studies published in English
 - Studies looking at adolescents and adults
 - Articles from 1985-present
 - Peer-reviewed articles
- Exclusion:
 - Studies which did not investigate the interventions related to substance abuse
 - Studies that investigated other diagnosis

RESULTS OF SEARCH

5 relevant studies were located and categorised as shown in Table 1 (based on Levels of Evidence, Centre for Evidence Based Medicine, 1998)

Table 1: Summary of Study Designs of Articles retrieved

Study Design/ Methodology of Articles Retrieved	Level	Number Located	Author (Year)
Systematic reviews of RCT's (RCT= control group & random allocation)	1a	n=1	Wilk, A. I., MD, Jensen, N. M., MD, Havigurst, T. C. (1997).
Individual Randomised controlled trials	1b	n=1	Brown, Serganian, Tremblay, Annis (2002)
SR of cohort studies	2a		

Individual cohort studies and low quality RCT;s	2b	n=2	Boisvert, Grosek, Clarie (2008); Stoffel, V. C., Moyers, P. A. (2004).
SR of case control studies	3a		
Individual case control study	3b		
Case series & poor quality case control & cohort studies	4	n=1	Boyd-Ball, A. (2003).
Expert opinion	5		

BEST EVIDENCE

The following study/paper was identified as the 'best' evidence and selected for critical appraisal. Reasons for selecting this study were:

- The study met the inclusion and exclusion criteria
- The study addressed the focussed clinical question
- The RCT is a recent study
- The RCT has many outcome measures

SUMMARY OF BEST EVIDENCE

Table 2: *Description and appraisal of process and outcome changes with relapse prevention versus 12-step aftercare programs for substance abusers* by Brown, Seraganian, Tremblay, and Annis 2001

Aim/Objective of the Study:

The purpose of this study was to seek probable support for mechanisms of action through which two theoretically distinct aftercare programs, relapse prevention (RP) and 12-Step facilitation (TSF), impact substance abusers.

Study Design:

The design for this study was randomised control trial. Adults who had just completed intensive treatment for substance abuse were assigned randomly to an either Relapse prevention (n=61) or 12-step facilitation (n=70) aftercare programs (intervention).

Setting:

The study occurred at three residential treatment facilities in Montreal, Canada including a publicly funded facility, a private non-profit facility, and a provincially funded facility. Although the three treatment centers share common attribute (e.g. a multi-modal treatment orientation which stresses heightened awareness of the negative impact of substance abuse, personal autonomy from dependence on psychoactive substances, improved social adjustment and

coping, availability of treatment aftercare), the focus upon substance abuse as a medical versus a psychosocial problem differed across the three sites.

Participants:

n= 366. 266 accepted randomisation & 70 refused randomisation, but agreed to subsequent assessment.

Participants were recruited from newly admitted, adult, male and female patients at three treatment centers in the Montreal region. Participants were included if they met the DSM-III diagnostic criteria for psychoactive substance abuse/dependence, did not exhibit severe organic brain syndrome or severe psychosis, and could read and write in either French or English at least at a grade level of 5, and reside within 50-km radius from Montreal, Canada.

The subjects were randomised into either 12-step facilitation (n=140) or relapse prevention (n=126) with a computer-assisted randomisation procedure with no between group differences on variables that could potentially influence outcome. The gender distribution reflects a 3:1 male-female ratio, which is typical in such setting.

Intervention Investigated:

For both interventions, relapse prevention and 12-step facilitation, treatment was provided in a 10-week, 90-minute closed group format, with groups comprised of 4-8 participants.

Relapse Prevention (RP): 10 scheduled weekly sessions including three distinct counselling stages: (1) administration of questionnaires to assess high-risk situations for substance usage, (2) initial counselling procedures focusing on change initiation, and (3) modified counselling that focuses on maintenance of change. The relapse prevention sessions were facilitated by PhD level graduate students enrolled in a clinical psychology program.

12-Step Facilitation (TSF): The comprehensive 12-step facilitation manual commonly used in the group Alcoholics Anonymous or AA. All 12 steps are explored in the treatment with an emphasis placed on steps 1-3. Weekly counselling sessions followed a similar format. The sessions were led by recovering AA members who were trained by experts in the AA 12-step model.

Outcome Measures:

Alcohol & Drug Use

Time-line Follow Back: presents patients with a calendar and asks them to recall instances of drinking or substance use on a daily basis over the past 90 days.

Addiction Severity Index: semi-structured interview protocol that has been found valid and reliable in assessing a spectrum of addiction-related behaviours and consequences in both evaluative and matching investigations

Days to lapse: any use of psychoactive substance

Days to relapse: three or more consecutive days of consumption

Psychological Status

Symptom Checklist-90: Self-administered, simple yet effective screening device for detecting psychological disturbance in treatment studies of alcohol and drug abusers.

Treatment Process

Brown-Peterson Recovery Progress Inventory (B-PRPI): 53-item self-administered questionnaire, measures spirituality & adoption of TS creed. Parametric evaluation of this instrument has resulted in split-half reliability estimates of .94.

Alcohol and Drug Use Self-efficacy Scale (ADUSE): 20-item self-report questionnaire, assess self-efficacy with respect to temptations and self-confidence in the face of high-risk situations. Follows Bandura's construct of self-efficacy using a likert scale summed separately for temptation and self-confidence.

Main Findings:

No main between-group effects of treatment on any of the outcome variables were detected.

Both treatments were associated with significant within subject main effects of time, with significant improvements on all substance abuse outcome measures.

In group RP, the number of sessions attended was correlated significantly to reductions in ASI drug use severity. Long-term reductions in ADUSE temptation were associated with significant reductions in ASI alcohol and drug use severity and days of use in the preceding 90 days. Long-term increases in the confidence scale were associated to reductions in ASI drug severity and fewer days of use in the 90 days preceding 6-month follow up.

For group TSF, long-term increases in the B-PRPI were significantly related to reductions in ASI alcohol use severity, while short-term changes were associated with fewer days of use in the 90 days preceding 6-month follow-up. Also long-term decreases in ADUSE temptation were associated with lower ASI drug use severity at follow-up.

	TSF		RP		UC	
Intake & 6 mo follow-up	T0	T3	T0	T3	T0	T3
Days of use in previous 90 days	46.1	13.3	46	9.2	45.3	9.5
SD	22.6	24	25.6	17.7	24.3	20
ASI alcohol	0.31	0.15	0.33	0.2	0.42	0.2
SD	0.23	0.19	0.22	0.22	0.23	0.2
ASI drug	0.16	0.07	0.14	0.06	0.12	0.2
SD	0.08	0.09	0.1	0.07	0.1	0.04
Days to first lapse		119.8		101.8		127.6
SD		67		72.8		62.8
Days to first relapse		146.9		139.5		160.8
SD		54		60.3		30.9

Table 1. Means and standard deviations of substance use

	TSF			RP			UC		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
ADUSE-Temp	47.3	42.9	44.4	46.4	33.5	45.3	40.6	38.2	40.4
SD	15.9	15.9	18.3	15.6	13.7	18.7	13.1	12.6	18.5

ADUSE- Conf	76.5	74.7	78	76.9	83	77	76.4	83.3	80.1
SD	15.6	17.2	17.4	15.1	12.5	16.3	19.4	13.8	19.3
B-PRPI	111.7	113.5	110	111.1	108.1	113.3	111.1	110.8	109.9
SD	27.3	27.8	27.7	23.2	19.4	27	21.3	29	31.1

T1- entry to aftercare

T2- post-aftercare

T3- 6-month follow-up

Table 2. Means and standard deviations of process measures**Original Authors' Conclusions:**

The study concluded that carefully orchestrated relapse prevention and 12-step facilitation aftercare programs yield process changes that are related positively to improved outcome. Both aftercare strategies appear to offer comparable benefits to clients. The present findings suggest that the effectiveness of aftercare is influenced both by frequency of attendance and attainment of the targeted therapeutic objectives in each program, but how client's benefit from either may be idiosyncratic.

Critical Appraisal:**Validity**

- Ethical approval and written informed consent reported by the authors. Participants volunteered to be in the study.
- Inclusion/exclusion criteria were used to screen participants.
- Methods of screening were clearly identified and explained by the authors.
- Power analysis was conducted to estimate the number of person needed to complete the study (n=140) and reported by the authors. Numbers were sufficient.
- Participants were randomly allocated to either relapse prevention group or 12-step group by a computer software. Blinding of participants to whether they were in the relapse prevention group or the 12-step group was not mentioned.
- Unblinded assessors: Research assistants administered outcome measures and were 'considered neutral observers and were unlikely to influence participants completion of the self assessments'. However there is no mention that these people were blinded to group allocation, a potential for bias, since the assistants may have influenced the completion of the assessments.
- Training in the administration of assessment tools and outcome measures used not mentioned. This would increase the reliability of the findings.
- Baseline data was compared using t statistics for continuous variables such as age and Pearson chi-square statistic for discrete variables such as race. This found no significant differences.
- *PEDro Scale (Partitioned) Score* = Internal Validity Score: 4/8 Statistical Reporting Score: 2/2
Total Score: 6/10.
 - Sample was randomly allocated.
 - Allocation was concealed
 - Baseline comparability established.
 - Subjects, assessors and therapists not blinded to intervention

- Drop-outs reported (less than 85%)

Statistical Reporting

- Clear report of methods of analysis used
- Reported between group comparisons: nil statistical difference found between the four groups
- Results reported in terms of statistical significance
- Conclusion were related to results.

Interpretation of Results:

Although both aftercare regimes produced effects that were related to their specific hypothesized mediators, stronger and more consistent findings were seen in those randomized to RP as opposed to TS. With RP aftercare, perceptions of temptation to high-risk situations were lower and confidence in high-risk situations was higher at the termination of the 10-week aftercare program compared to the TS group. These changes did not persist after the treatment phase. Both aftercare strategies appear to offer comparable benefits to clients grappling with substance abuse.

Summary/Conclusion:

Both types of intervention, 12-step and relapse prevention, were found to offer comparable benefits. The study demonstrates that clients benefit from weekly educational consultations. It also demonstrates how individualized treatment approaches benefit patients. The study suggests that the stability of therapeutic gains achieved in aftercare influences long-term outcomes. The study's findings also provide support for the notion that substance abuse is a chronic condition that may benefit from a more protracted aftercare strategy in which occupational therapy could help.

IMPLICATIONS FOR PRACTICE, EDUCATION and FUTURE RESEARCH

- *An Evidence-Based and Occupational Perspective of Interventions for Persons with Substance-Use Disorders:* Occupational therapists and occupational therapy assistants should place greater emphasis upon helping the person using alcohol or drugs engage, without the use of substances, in meaningful and healthy occupations and activities within a variety of contexts and practice settings. This shows that there is a definite need for occupational therapy services for treating patient with substance-use disorders. The cost of brief intervention is an efficient low cost treatment.
- *Effectiveness of a Peer-support Community in Addiction Recovery: Participation as Intervention:* This study demonstrates effective facilitation of a peer-support community. The occupational therapist served as a catalyst facilitating the process of community development, offering unconditional support and guidance when requested and nudge the group to get it started. Occupational therapists are uniquely prepared to deal with the intricate interaction of motivation, habituation, and personal causation.

- *The Process and Outcome Changes with Relapse Prevention Versus 12-step Aftercare Programs for Substance Abusers*: The study demonstrates that clients benefit from weekly educational consultations. It also demonstrates how individualized treatment approaches benefit patients. The study suggests that the stability of therapeutic gains achieved in aftercare influences long-term outcomes. The study's findings also provide support for the notion that substance abuse is a chronic condition that may benefit from a more protracted aftercare strategy in which occupational therapy could help.

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